Challenges Facing U.S. Refiners

NEMS/AEO Conference

March 18, 2003

Michael A. Lobue
Refining Issues Manager

American Petroleum Institute

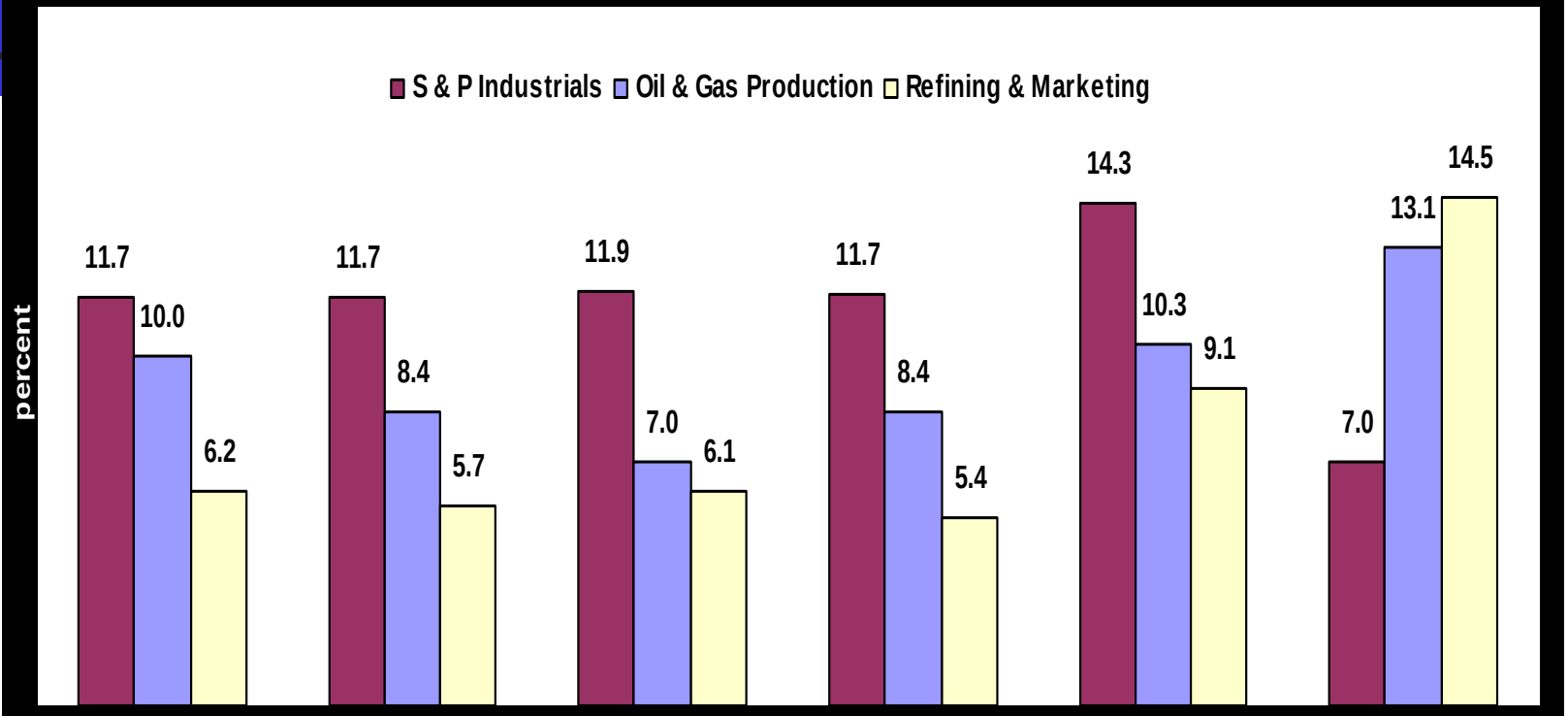
Historical Petroleum Product Demand

Last Ten Years:

- Annual GDP Growth: 3.3%
- Petroleum Product Consumption Increase: 17%

American Petroleum Institute

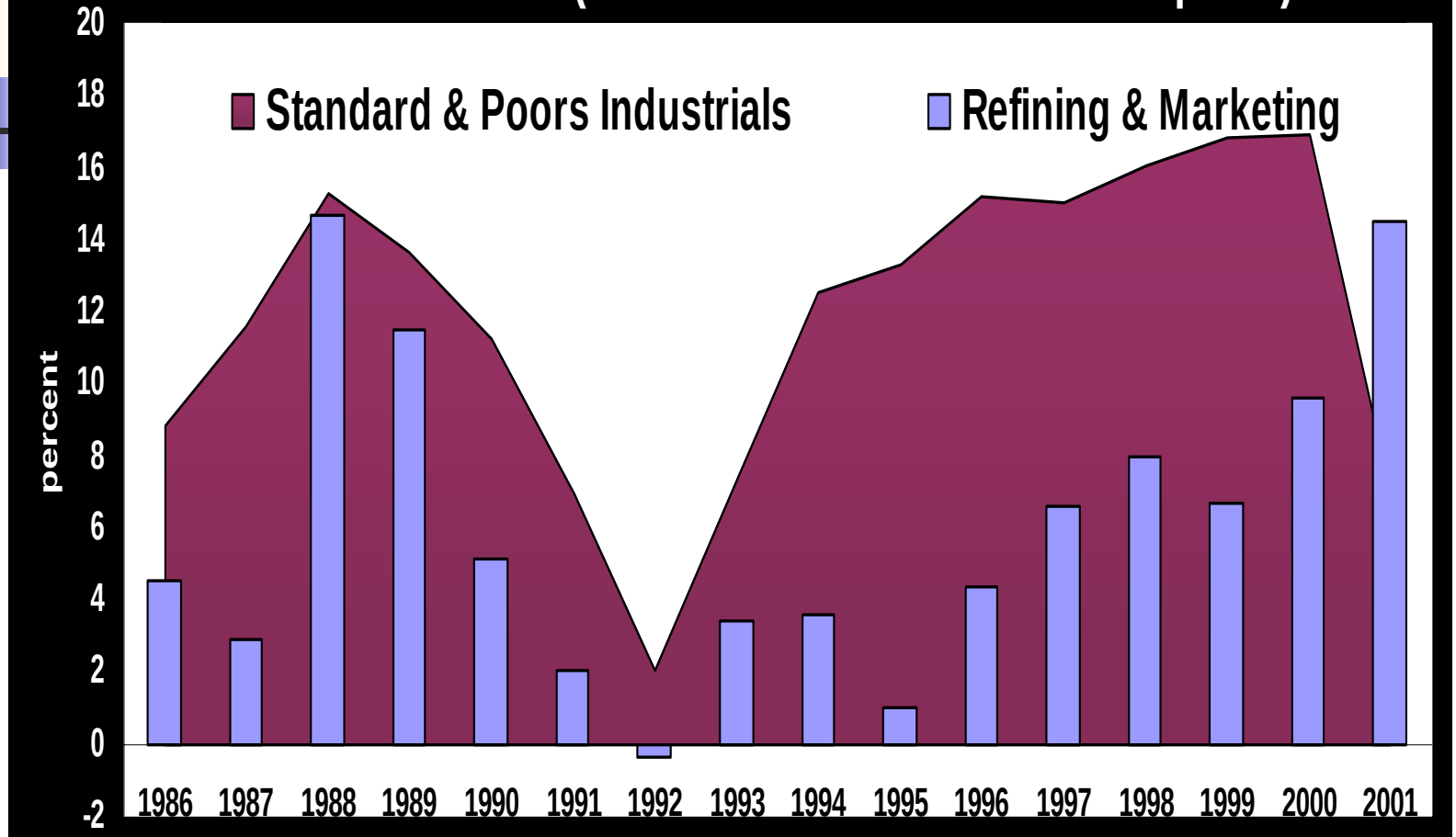
Return on Investment
(net income/net investment in place)



Source: U.S. Department of Energy, *Performance Profiles of Major Energy Producers.*

American Petroleum Institute

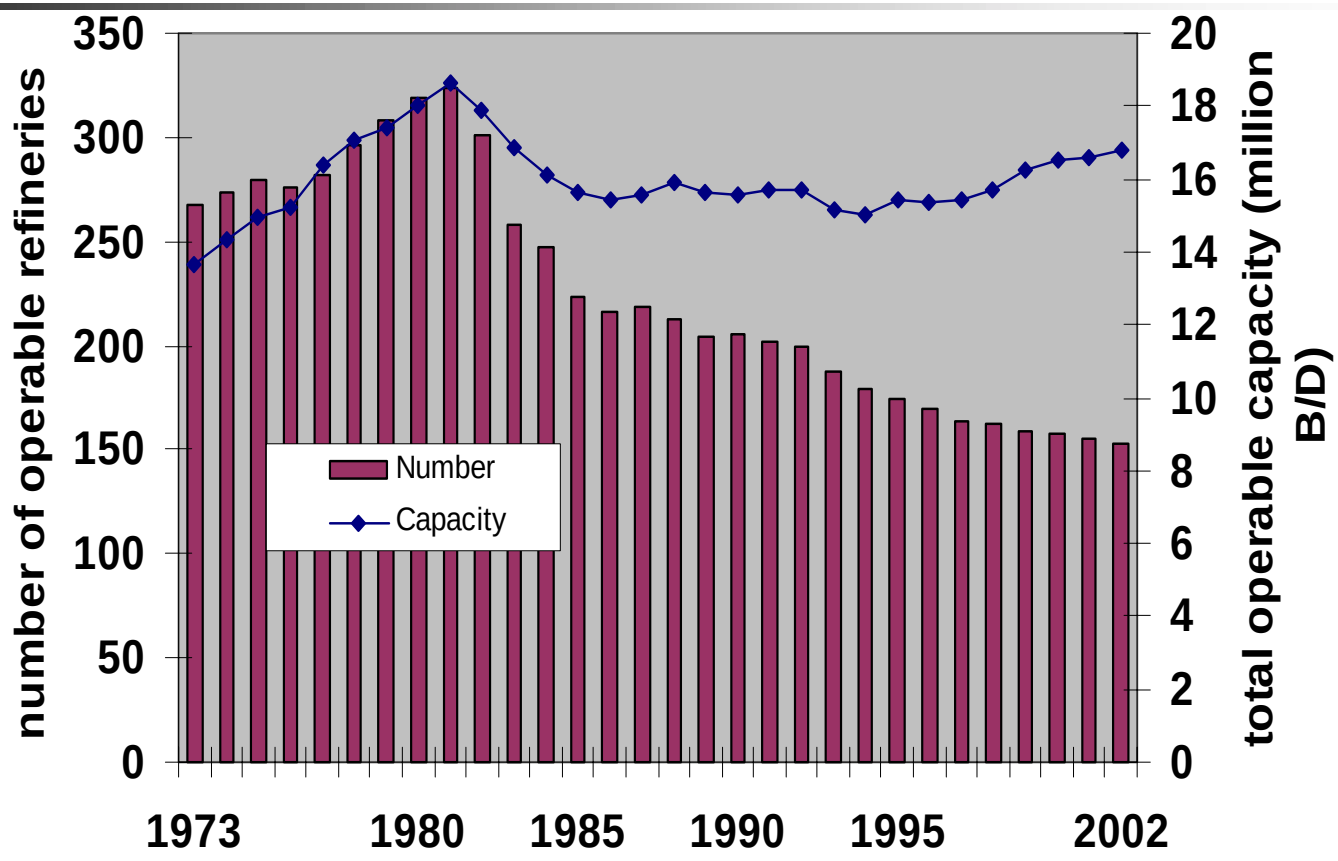
Return on Investment
(net income/net investment in place)



Source: U.S. Department of Energy, *Performance Profiles of Major Energy Producers.*

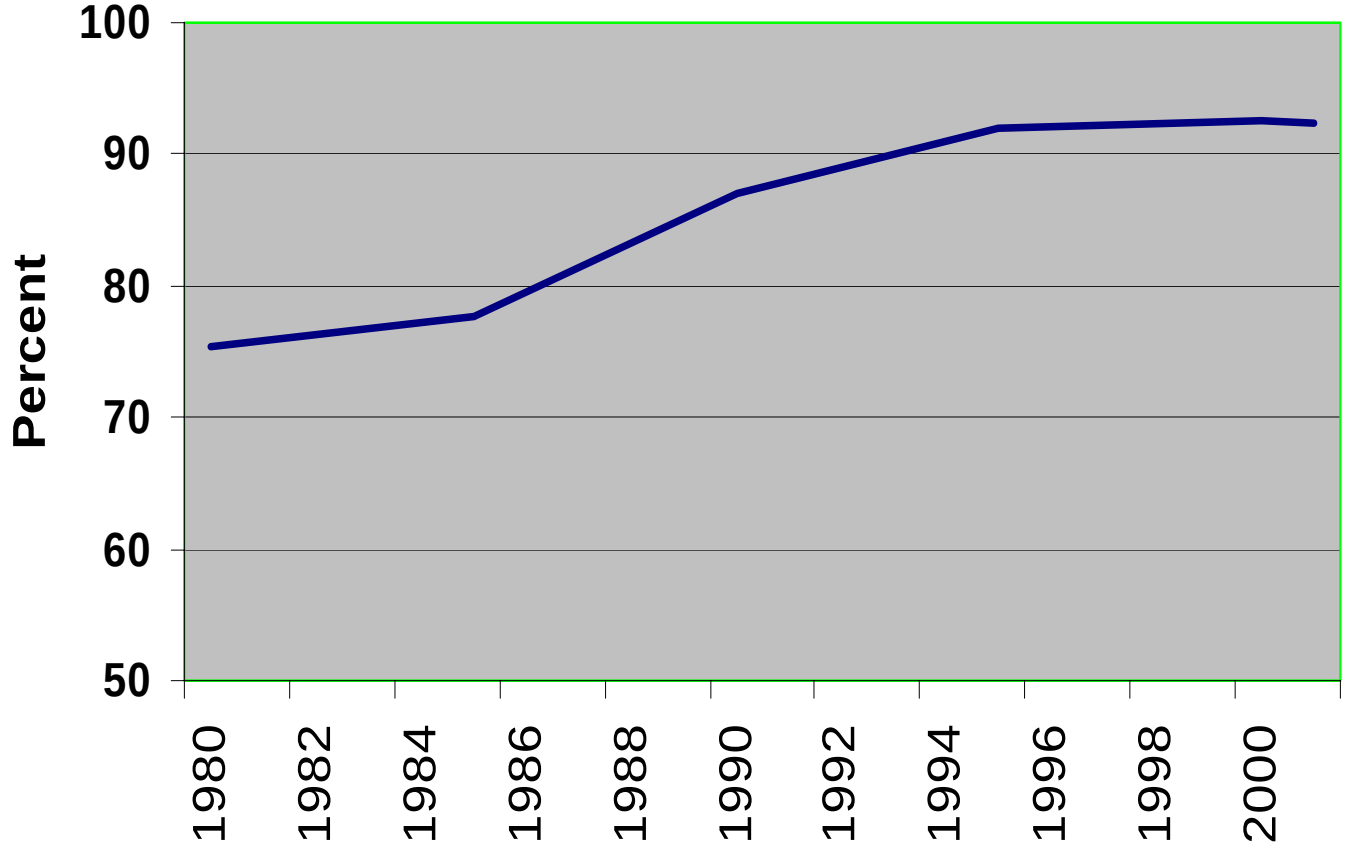
American Petroleum Institute

U.S. Refineries & Capacity: 1973 to 2002 (Source: U.S. EIA)



American Petroleum Institute

U.S. Refinery Capacity Utilization (Source: U.S. EIA)



American Petroleum Institute

U.S. Oil & Gas Environmental Compliance Costs

- 1992 to 2001 Refining: $47.6 Billion
  - $16.8 Billion in Capital
  - $30.8 Billion in Operation and Maintenance
- 2001 All Segments
  - $8.7 Billion
  - 27% of Net Income

American Petroleum Institute

Major New U.S. Refinery Environmental Costs

- Gasoline Sulfur Reduction
  - $8 Billion
- On-road Diesel Sulfur Reduction
  - $8 Billion
- MTBE Removal
- Off-road Diesel Sulfur Reduction
- Mobile Source Air Toxics

American Petroleum Institute

On-Road Diesel Sulfur Rule

- API Supports Goal
- API Working with EPA to Avoid Potential Supply Problems
  - Finalize Off-road Rule ASAP
  - Credit Trading System Should Encourage Early Production of ULSD
  - Flexible System for Distinguishing Between On and Off-Road Diesel

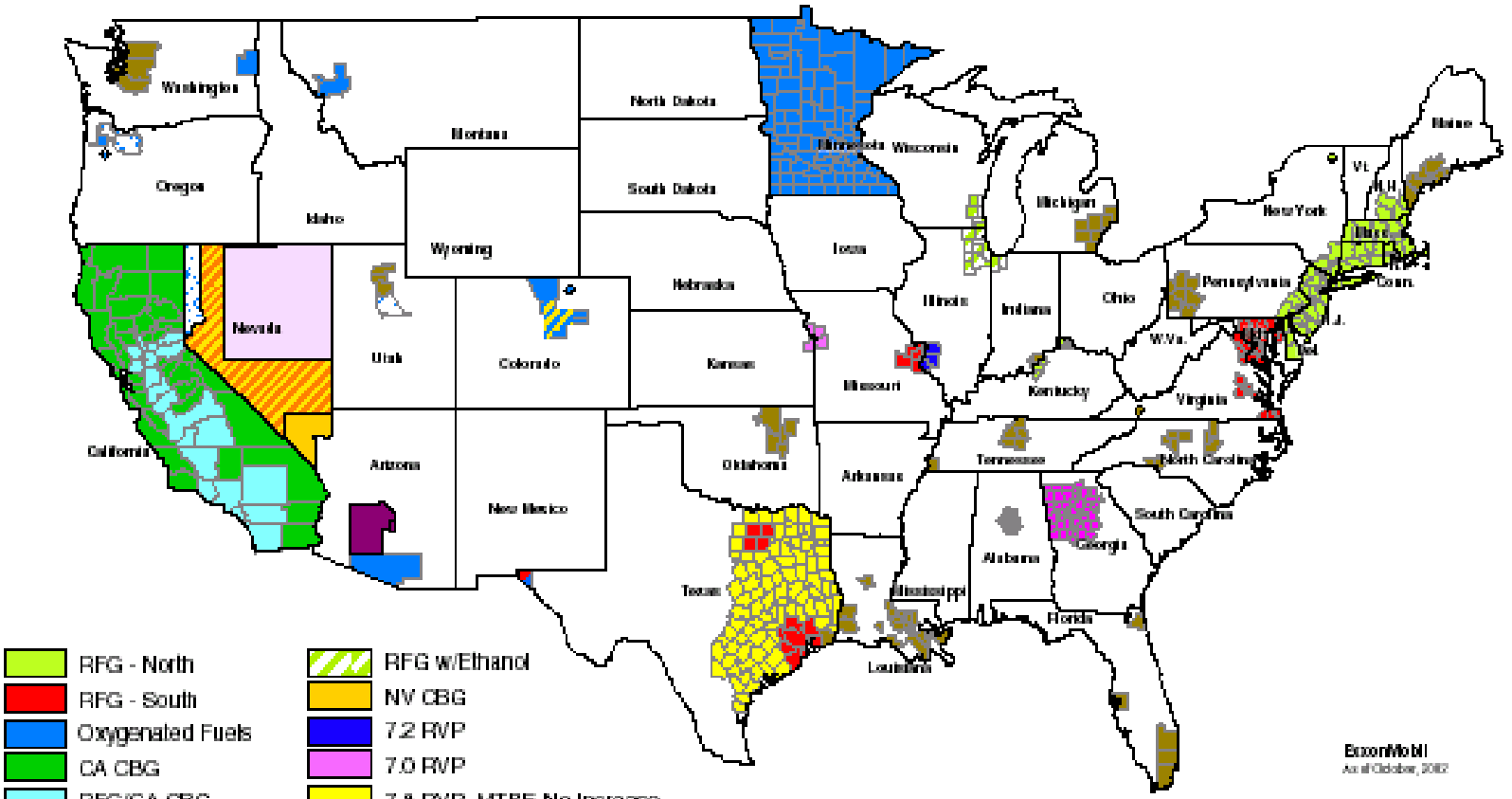
American Petroleum Institute

Additional Capacity Expansion Hurdles

- Complex Permitting Requirements
  - Federal, State, Local
    - Frequently Conflicting Priorities
  - New Source Review
- Regulatory Uncertainty
- Outdated Depreciation Treatment

American Petroleum Institute

U.S. Gasoline Requirements



ExxonMobil
As of October, 2002

This map is not intended to provide legal advice or to be used as guidance for state and/or federal fuel requirements, including but not limited to oxy fuel or RFG compliance requirements. ExxonMobil makes no representations or warranties, express or otherwise, as to the accuracy or completeness of this map.

K.W. Gardner

American Petroleum Institute

EIA Projections
(AEO2003 Reference Case)

- Product Supplied, million barrels per day
  - 2001: 19.8
  - 2025: 29.2 (47% increase)
- U.S. Refining Capacity, million barrels per day
  - 2001: 16.8
  - 2025: 19.8 (18% increase)

American Petroleum Institute

Role of Imports

- Net Product Imports over Last 10 Years:
  - 6 to 8% of U.S. Demand
  - Gasoline Imports Increased from 3.5% to 9% of Demand
- EIA Product Import Projections for Year 2025 (Reference Case):
  - 23% of Demand

American Petroleum Institute

Conclusions

- U.S. Refiners Will Make Very Large Investments to:
  - Produce Cleaner-Burning Fuels
  - Phase Down Use of MTBE
  - Continue Reductions in Refinery Environmental Impact

American Petroleum Institute

Conclusions (cont.)

- Low Rates of Return Make It Difficult for Refiners to Justify Investments
- "Boutique Fuels" Reduce Refinery Flexibility and Efficiency
- Very Little Excess Refining Capacity

American Petroleum Institute

Conclusions (cont.)

- Economic Growth Will Result in Increased Petroleum Product Consumption
- Refinery Utilization Rates Will Remain High
- Availability of Additional Product Imports is Uncertain

American Petroleum Institute

Challenges Facing U.S. Refiners

NEMS/AEO Conference

March 18, 2003

Michael A. Lobue
Refining Issues Manager

American Petroleum Institute